JUNE 10, 1950
Vol. 11[illegible] No. 12

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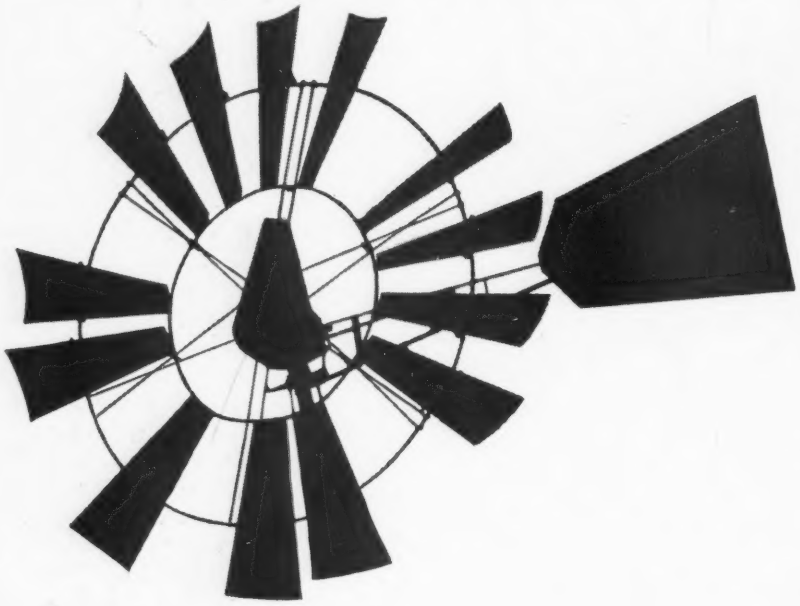

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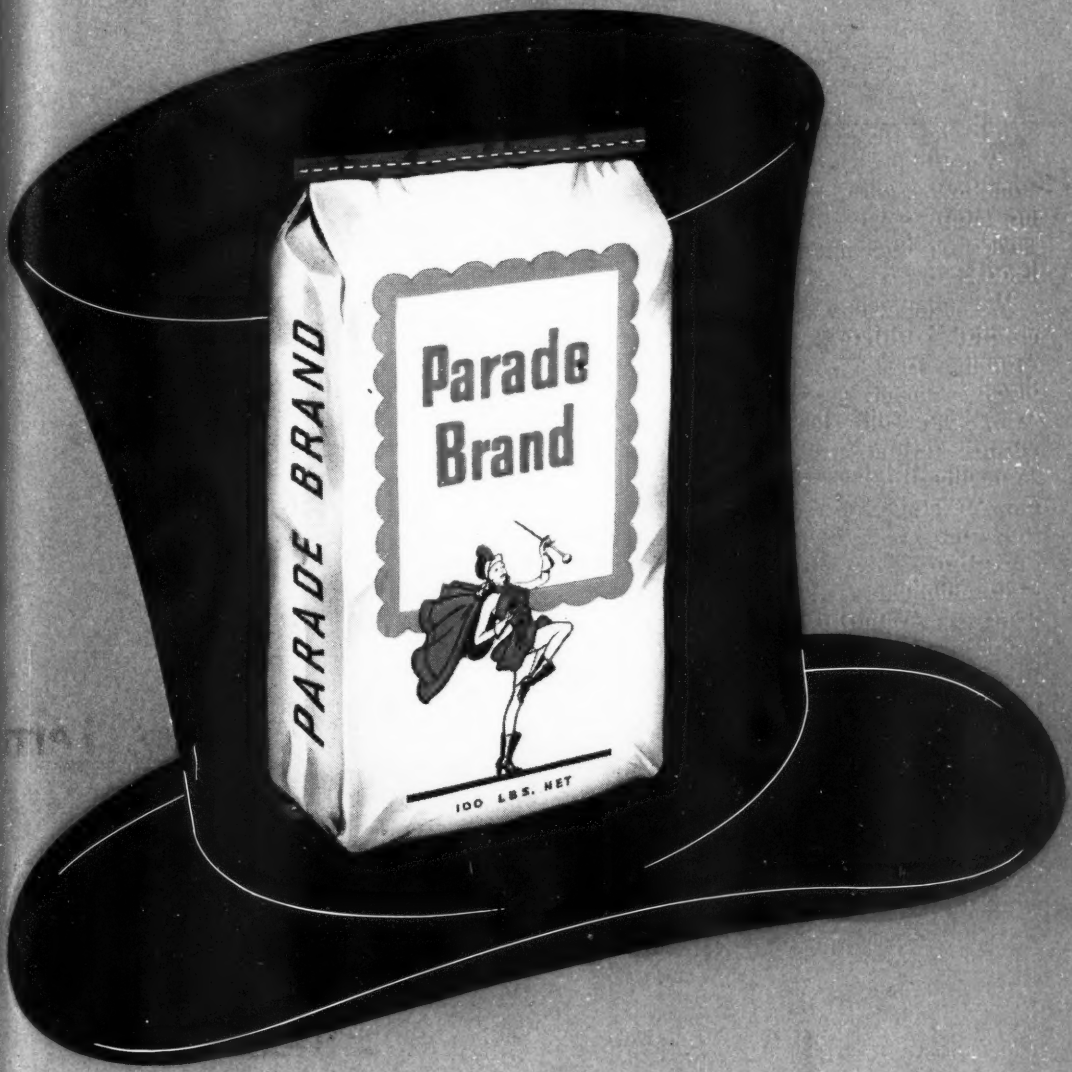

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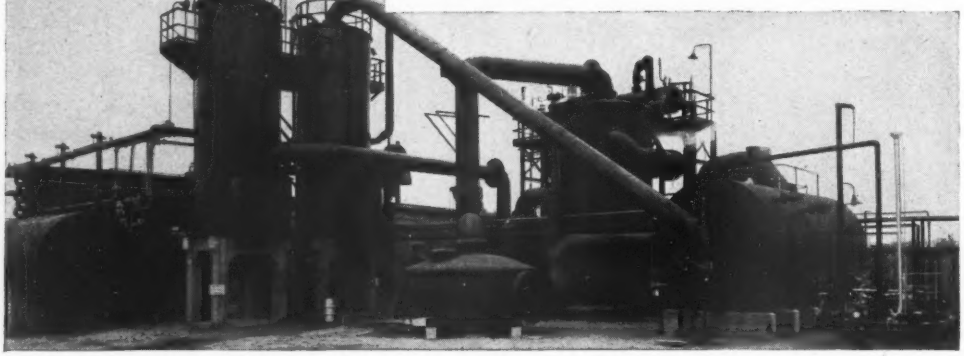

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SERVING INDUSTRY . . . WHICH SERVES MANKIND

SOIL TESTING IN MINNESOTA

MINNESOTA FARMERS ARE finding it easy to have their soils tested and get the fertilizers that these tests show their crops need. And fertilizer dealers and elevator operators are important cogs in the system that makes this possible.

Every fertilizer dealer or elevator operator who wishes can cooperate with the University testing laboratory by making his place of business a depot for supplies and instructions to the farmer and mailing the samples to the laboratory. Posters, furnished by the fertilizer manufacturers, mark each business place that serves as a soil sample depot.

Laboratory Results

When the farmer gets the results of his soil test from the laboratory he finds listed all the fertilizer grades made in the state that fit the ratios recommended for his crops. Thus, he can get a fertilizer grade that will fit his needs from almost any fertilizer dealer in the state. He need not "shop around" to get the grade mentioned in recommendations that are phrased "0–0–0 or equivalent."

When the Minnesota legislature appropriated funds for a state soil testing laboratory last year, Dr. C. O. Rost, head of the Soils Department, put Paul Burson, former extension soils specialist, in charge. Burson wanted a system that would make it easy for farmers to get their soil samples to the laboratory. He wanted the recommendations put out in a form that would give the farmer complete choice of all the fertilizer grades that would meet his needs. He wanted the active cooperation of the fertilizer dealers and elevator operators.

How It Works

Here is how the system works. The University laboratory purchases the soil sample cartons and furnishes all the other supplies. They distribute these supplies to the county agents. The fertilizer dealer who has set up his place of business as a soil sample depot gets instruction sheets and soil sample cartons from the county agent. The farmer comes to the depot to get his supplies. In many cases, the fertilizer dealer helps with the taking of the samples. Then the samples are brought to the depot and, with samples from other farmers, are shipped in a special carton to the University laboratory. The dealer collects from the farmers the charge for testing and sends the total amount for all the samples to the University laboratory.

No Special Trips

The farmer need not make any special trips. If he has questions the fertilizer dealer can answer many of them. He is freed from the bother of a special check or money order to go to the lab. The dealer can check the samples to make sure that all the

(*Continued on page 26*)

Roy Howe, fertilizer dealer who serves as a soil sample depot, gets soil sample containers and information sheets from Harold Pederson, Hennepin County Agent.

Mert Lane, farmer, gets information sheets and soil sample cartons and some tips on the taking of soil samples from Howe.

Lane and County Agent Pederson talk over the soil test report and recommendations returned from the University soil testing laboratory.

25 Ways You Can Be A FAILURE

Condensed from Modern Industry

ONE OF THE EASIEST achievements in executive life is mediocrity, in which neither the executive nor his work is much noticed until one day he disappears and is replaced by a man the company hopes will do better. Anyone who can get into executive ranks can achieve mediocrity without half trying.

Being a big success, growing in the job, and moving on into bigger responsibilities is a good deal harder, as any enterprising management man can tell you, from his own experience and from his experience in developing the men under him.

It is a lot harder, however, to be an outstanding failure, the kind of rocket that gives as brilliant a fizz-bang coming down as it did going up. This is probably because so few executives have studied the principles of failure.

Check-Up Chart

For management men tired of being lectured—or lecturing a subordinate—on how to be a successful executive, here is a Checkup Chart on How to Be a Failure.

Only an amateur will limit himself to two or three or a half dozen of the bad habits listed here. A man who wants to make a name for himself will try all 25. Even men totally uninterested in being failures may find the list worth while, for a jest is a two-edged sword. There's many a *how-to* wrapped up in a *how-not-to*.

It was suggested by the author of this article that it be read at the next sales meeting

1. If a subordinate makes a mistake, let him have both barrels, preferably in front of others. He'll be taught a good lesson; namely, to cover up future errors instead of airing them so they may be remedied promptly.

2. Never accept responsibility for a decision if you can possibly avoid it. If you don't accept a responsibility in the first place, how can you be held responsible for falling down on it?

3. If you came up the ladder in a specialty, stay in that specialty. If the company wants an all-around management man, let it pick one in the first place, and leave you where you are.

4. Develop your ability to pass the buck—take private lessons at night, if need be. There's nothing better to give both subordinates and superiors a sharp, clear picture of just what kind of person you are.

5. Keep your nose to the grindstone; don't expose yourself to new ideas. Better wear out your nose than your brains.

6. If a superior gives advice, endear yourself to him by letting him know you really don't need it, because you know everything already.

7. Keep your fingers on every little detail of your work, every day, relentlessly.

8. Never consult with others in arriving at decisions; don't discuss anything with anyone; always talk, but above all never listen.

9. Never teach a younger man how to do your job or fill your shoes after you've moved up. You might even be allowed to make room for someone who *can* train replacements.

10. Never check up on your health, or if you do, pay no attention to the doctor's advice. There's probably no more dramatic way of demonstrating your inability to fill a job than to drop dead.

11. If your secretary wants to take her shoes off in the office, make your desk a dressing table, receive her long personal phone calls, and in general act homey—encourage her.

12. If company policy makes you take vacations, worry about who's shining while you're away, and how the job's being done. Tips everybody off that if you're so worried lest someone usurp your position there must be a reason for your sense of insecurity.

13. If you find that a couple of

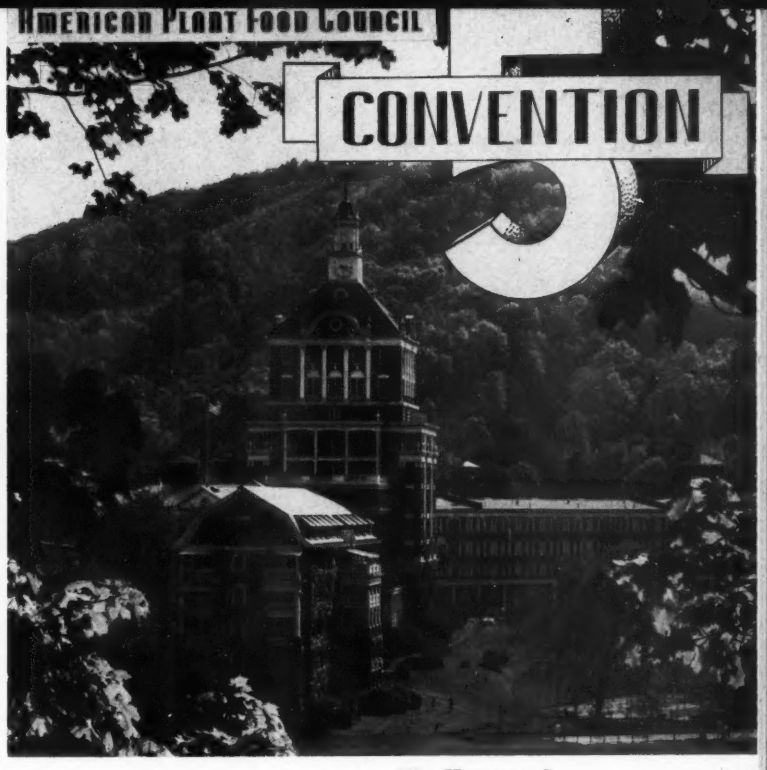
(Continued on page 20)

AMERICAN FERTILIZER IS trying each issue to bring to your attention sales and public relations ideas from other fields. These comments are always in line with the thinking, and the day-by-day problems of our industry. If you have comments to make about this section of the magazine, please drop us a line today.

AMERICAN FERTILIZER

APFC MEETS FOR FIFTH

June 29 to July 2



The Homestead

When you see da Shin-a-doah,
You'll neber wan to roam no mo.
— Valley Folk Song

THE FIFTH Annual Convention of the American Plant Food Council is to be held in the beautiful Shenandoah region where the first APFC Convention was held. Like the old valley song says, "You'll neber wan to roam no mo." . . . once you see the Homestead, Hot Springs, Virginia, scene of the 1950 annual meeting.

Meetings will begin on June 29 and last until July 2 with a well-balanced series of events planned, in observance of the fifth (Wood) anniversary of the founding of the Council.

Opens Friday

The American Plant Food Council Convention sessions will formally begin Friday, June 30 with the welcome address by Clifton A. Woodrum, President of the Council. U.S. Senator Spessard L. Holland, (D-Fla.) member of the Senate Committee on Agriculture and Forestry will give the feature address.

Senator Holland, a former Governor of Florida, is regarded as a well informed man in the field of fertilizer.

W. R. Thompson, Associate Leader, Extension Agronomy, Mississippi State College at State College his alma mater, will follow Senator Holland with an address on "Plant Food and Pastures."

Well-known throughout the South as "the pasture man," Mr. Thompson has attracted widespread attention as a lecturer and leader with a down-to-earth approach to the problem of grassland farming in a sound agricultural program.

Appointment of Convention Committees, a brief business session and the election of nine members to the Board of Directors will conclude the opening day session.

Six Winners

The six national winners in the 1950 essay contest on "Soil Fertility and the Nation's Future" will receive their awards Saturday morning July 1 from Assistant Secretary of Agriculture Knox T. Hutchinson, Chairman of the National Board of Judges.

Mr. Hutchinson came to the Department of Agriculture from Murfreesboro, Tennessee, where he operates a 550-acre diversified farm. Before engaging in farming, he taught agriculture at the Teacher's College at Murfreesboro.

He was a member of the Tennessee State Senate from 1939 to 1940, served as chairman of the Executive Board of the Tennessee State Grange and has been a director of the Rutherford County Farm Bureau since 1936.

National Judges

Other National judges for the contest are: Dr. Hugh H. Bennett, Chief, Soil Conservation Service, U. S. Department of Agriculture; Miss Lois M. Clark, Assistant Director, Division of Rural Service, National Education Association; Dr. W. T. Spanton, Chief, Agricultural Education Service, U. S. Office of Education and D. M. L. Wilson, Director of Extension Work, USDA

Sponsored by the National Grange and American Plant Food Council, the 1950 contest attracted more than 20,000 essays from young men and women in the 48 States and District of Columbia. Albert S. Goss, Master of the National Grange is scheduled to speak in connection with the awards which total $10,000.

National prizes in the contest

FEATURED APFC SPEAKERS—

Dr. D. S. Freeman

Senator Holland

are: First, $1,000; Second, $500; Third, $400; Fourth, Fifth, and Sixth each $300. The National winner to be selected in June, will read his or her paper as a feature of the presentation ceremonies.

Nationally-known author, historian and Pulitzer Prize winner Dr. Douglas S. Freeman of Richmond will be the principal speaker at the annual banquet session, Saturday evening, which will highlight the Convention. He holds doctor's degrees from more than 20 of the Nation's leading colleges and universities and has served as a trustee of the Rockefeller Foundation, on the General Education Board of the Carnegie Endowment for International Peace and on the Woodrow Wilson Foundation. For his four volumes on Robert E. Lee in 1934, he was awarded a Pulitzer Prize.

On July 2, the Board of Directors will meet to elect an Executive Committee and a new Committee Chairman. AMERICAN FERTILIZER will give full news and picture coverage of all phases of the meeting.

(*Continued on page 28*)

. . . "Fore" will be shouted often at the fifth . . .

SOLVAY DEDICATES NEW RESEARCH LABORATORY

The Solvay Process Division of the Allied Chemical & Dye Corporation recently dedicated its $1,000,000 new laboratory for research at Syracuse, N. Y.

A. B. Chadwick, president, Dr. M. F. Fogler, vice-president; Paul A. Keene, chief of research; Carl Sundstrom and R. H. Sawens, director of technical service, formally dedicated the three-story building. Terming the ceremonies another milestone in Solvay's progress in research and technical service to United States industry, Mr. Chadwick observed it was fitting that the laboratory was built in Syracuse.

"This is the site," he said, "of the first by-product cokeovens and the first successful synthetic nitrogen plant in the country."

"The new laboratory, which will serve as research and technical development headquarters for the Solvay affiliates, is essential to the continued progress of the company," he said. But, he told the research and technical personnel, "you must make it a living unit, used by interested people who are inspired to play decisive parts in the progress of science and industry. Justification for new Solvay research is in your hands. Your job is progress and service. New products and processes must be conceived, old ones improved, and new uses for our products must be developed."

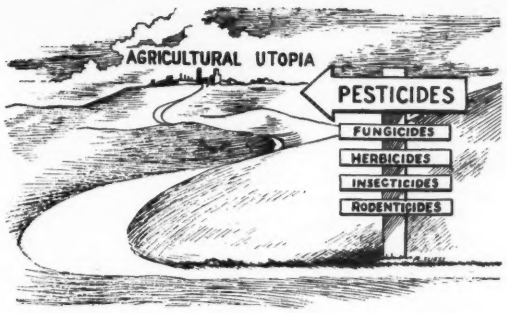
Paragraphics:

A basis for competition in the 1950 "corn war" between North Carolina and Virginia has been agreed upon by officials of the two States. The winning State will be the one whose average yield shows the larger percentage increase over the average for the 10-year period 1940-49. Last year, when Virginia won, the contest was based on the bushels-per-acre increase over the average for 1937-46.

Dr. K. D. Jacob, head, Fertilizer and Lime Division, USDA, Beltsville, Md., has been made an honorary member of the United Kingdom's important scientific body, The Fertiliser Society.

AGRICULTURAL INSECTICIDES

. . . Residue tolerance hearings recessed . . .



THE FIRST half of the residue tolerance hearings before the Food and Drug Administration wound up last month and the entire investigation is now recessed until July 10.

A list of more than fifty products used as insecticides or fungicides in the production of fresh fruits and vegetables for which residue tolerances should be established to protect the public health was submitted at the hearings before the Food and Drug Administration by Dr. Arnold J. Lehman, chief of the FDA's division of pharmacology.

In testimony on proposed regulations to limit the use of poisonous substances on food crops, Dr. Lehman said that the list would probably be lengthened to include other products but for the fact that lack of time and information made it impossible to classify about forty other chemicals that have been mentioned in the hearings.

SECOND HALF

At the second half of the hearings, beginning July 10, testimony will be directed to the question of toxicity and how much of these various substances can be tolerated without injury. Information is now being gathered from industry and government witnesses on the chemicals they plan to discuss.

The other phase of the investigation for public discussion will be the question of amending existing regulations.

Hearings were opened last January 17 and at that time testimony was scheduled that would run for more than six months on the first question alone—the necessity of using added substances for controlling the enemies which interfere with the production of good crops.

The Department of Agriculture and state agencies covered the question thoroughly and spokesmen for industry shortened their testimony to days instead of weeks.

Sixty days of hearings were held over the entire period, over 7,000 pages of testimony, more than 1,100 exhibits and over 100 chemicals have been under examination.

Dr. Lehman's testimony was the highlight of May 22. All of the chemicals were classified into groups by Dr. Lehman to show those whose residues create no problem, those which are safe when used according to good agricultural practices, and those for which tolerances should be established.

RESIDUES CREATE NO PROBLEM

Vitrious clay products; talc; kaolin; pyrophyllite; diatomaceous earth; magnesium carbonate; magnesium sulphate; soaps; fuller's earth; silica; ground nut shells; redwood bark dust; pyrethrum merc; hydrated lime; sawdust; entelator dust; calcium phosphate; calcium carbonate; gypsum; lime sulphur; dry lime sulphur; elemental sulphur; wettable sulphur, and dusting sulphur.

SAFE—WHEN USED CORRECTLY

Bordeaux mixture; copper oxychloride; copper oxide; copper phosphate; copper silicate; copper sulphates; copper zinc chromate; mineral oil emulsions (kerosene or heavier oils); ground insect flowers (pyrethrum); ground derris; ground cube; tobacco dust; copper zeolite; copper carbonate; copper oxychloridesulphate; 2, 4-dichloro-phenoxy-acetic acid; phenoxy acetic acid; naphthalene acetic acid; pyrethrum; pyrethrins; allethrin piperonyl butoxide; n-propyl isome; van Dyke 264; lime-aluminum sulphate; zinc oxide; ryania; sabadilla; quassia; nicotine; metaldehyde; methoxychlor; piperonyl cyclonene; hellebore; rotenone; rotenoids; dihydro rotenone; sulphonated castor oil; zinc lime, and zinc sulphate, basic.

PUBLIC HEALTH HAZARD

Heptachlor; aldrin; benzene hexachloride; dieldrin; lindane; chlordane; toxaphene; TDE; DDT; nitrochlorophenyl-propane; nitro-chloroe phenyl butane; cadmium copper limchromate; selenium derivatives; copper arsenate; copper acetoarsenate; lead arsenate; magnesium arsenate-zinc arsenite; calcium arsenate; basic lead arsenate; manganese arsenate; arsenic trioxide; sodium arsenite; tartar emetic; bismuth subsalicylate; barium fluosilicate; barium carbonate; cryolite; sodium fluosilicate; sodium fluoride; mercurous chloride; mercuric chloride; phenylmercuric triethanol ammonium lactate; ethyl mercuric phosphate; phenylmercuric acetate; phenylmercuric formamide; phenylmercuric monoethyl ammonium acetate; parathion; methyl parathion; paroxone; tetraethyl-dithio-non-pyrophosphate; ethyl-p-nitro-phenyl-thionobenzene phosphate; octamethyl pyrophosphoramide; glyoxalidine; lethane-60; lethane-384; lethane A-70; thanite; phenothiazine; dinitro-o-cresol; dinitro-o-cyclohexylphenol; dinitro-o-cyclohexylamine salt of phenol; dinitro-secondary butyl-phenol; triethanolamine salt of dinitro-secondary butylphenol, and dinitro capryl phenyl crotonate.

Dr. Lehman further said, "These substances, as far as I know, are likely to leave residues as a result of their commercial use as insecticides or fungicides. Naturally, the significance of the public health problem is dependent upon the amount of residue likely to remain when they are used in the production of fruits and vegetables. I believe that a quantitative tolerance for each of these substances is necessary for protection of the public health.

In addition to these substances which I have listed as poisonous or deleterious, there are a number of other poisonous substances which are in a somewhat different category in that they are believed to volatilize or decompose or be applied in ways that do not result in any uptake of the material by the plant. For example, hydrocyanic acid and various cyanides are definitely poisonous. If used as fumigants so that little or no hydrocyanic acid is taken up by the fruit or vegetable there would be no health hazard involved. The cyanides are in a somewhat different category from most of the other substances which I have indicated as poisonous or deleterious in that danger from cyanide poisoning is more likely to

(Continued on page 20)

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Front Cover illustration shows view in the Winchester Ky. plant of Southern States Cooperative

NEXT SEASON

Now is the time to look ahead and mull over the prospects for next season in our industry.

Every indication now available—all reports crossing this desk—seem to indicate that next season will be good. The fertilizer future seems to be "business as usual."

Recently we carried a short report from the USDA on next season, and in future issues we will have more from the experts on just what can reasonably be expected to happen. The USDA says things look good, and reports from the field add a ditto to this observatiou. Both the grass roots and the "brass and boots" agree—which is seldom, but nice to hear.

Contracts for materials, always the best weathervane of how the business wind will blow next season, seem to be coming in strong and the overall picture is one of satisfactory volume in the various order departments of our industry.

The fertilizer producers are showing more than a little confidence in the year ahead by placing this nice run of future orders. So, it seems that everyone is convinced supplies will be adequate.

Provided there are no crippling strikes.

Now the fertilizer producers can give their full attention to the effort to increase the consumption of the various plant food products.

It is always nice to get rid of a headache—and production headaches hurt both the bank roll and the pay envelope—and the cork has been popped out of the production bottleneck . . . so, no more headaches in this department, we hope.

Here a fine opportunity for all members of the fertilizer industry to develop that public relations idea. Here's the iron-striking moment to get into the educational and promotional field and help the progress of the entire plant food producers group.

AMERICAN FERTILIZER suggests some thinking and talking; some planning and cooperating; and some getting-out and doing in the very near future.

NAMES IN THE NEWS . . . .

AMERICAN POTASH NAMES DIRECTORS

John P. Remensnyder, president of Heyden Chemical Corporation, New York, and Dr. Ralph N. Lulek and Simon Askin, both vice-presidents and directors of that corporation, have joined the board of directors of American Potash & Chemical Corporation, Los Angeles, Calif. Mr. Remensnyder succeeds the late Bernard R. Armour, while Dr. Lulel and Mr. Askin replace Dr. D. B. Keyes and Henry G. Walter, jr., all of whom formerly represented Heyden on the American Potash board.

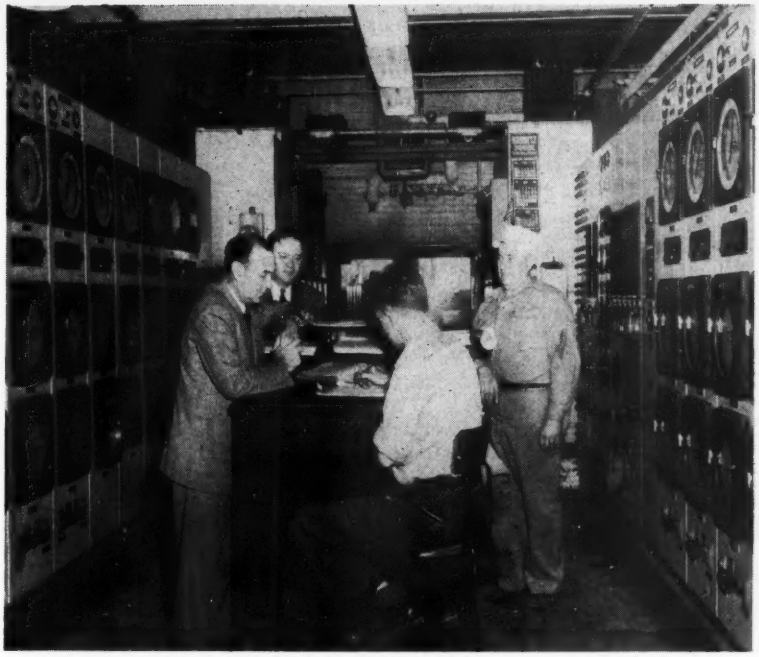
Geo. Wash G. W. McCullough

McCULLOUGH TO HEAD PHILLIPS MFG. SALES

K. S. Adams, president of Phillips Chemical Company, a subsidiary of Phillips Petroleum Company, has announced that the manufacturing operations and sales functions of Phillips Chemical Company have recently been combined under the supervision of G. W. McCullough, vice president and general manager at Bartlesville, Oklahoma.

The fertilizer sales division will continue under the management of L. H. Wright. George Wash has been appointed assistant manager of fertilizer sales.

H. L. Hays, former manufacturing superintendent is now assistant to McCullough R. M. Wallace, formerly superintendent of Plains butadiene plant at Borger, Texas, is superintendent of manufacturing operations, succeeding Hays.



President J. Albert Woods (left) confers with company officials on an inspection trip of the Commercial Solvents Corporation plants

"DOUBLE-A-C" ELECTS OFFICERS TO FOUR POSTS

At a meeting of the Board on Wednesday, May 24, 1950 the Directors of The American Agricultural Chemical Company elected the following officers: C. M. Powell, President; A. W. Cramer, Senior Vice President; W. H. Hildebrandt, Comptroller and Secretary; H. Mayo, Treasurer to fill the vacancies of L. H. Carter, G. H. Fick, and A. B. Arnold, retired as operating officers as of this date.

Mr. F. R. George was elected Vice President-Chemical Sales. No change in officer personnel except as above indicated has been made. The Board of Directors as now constituted is as follows: Elliott V. Bell, Louis H. Carter, Arnold W. Cramer, John Foster Dulles, George H. Fick, Charles M. Powell, Robert G. Stone, John C. Traphagen.

HARVEY NEW N. E. SALES HEAD FOR A&S

Arkell & Smiths, manufacturer of paper bags, recently announced the appointment of Mr. George S. Harvey as their New England Sales Manager.

Mr. Harvey has represented A&S in New England since 1926. Among his many pioneering sales efforts was the successful promotion of paper bags for shipping Maine potatoes. His packing, shipping, and display demonstrations to both shippers and large chain stores set the stage for the use of paper bags for packing many other retail grocery items.

BERK SALES TRANSFERRED TO MILLMASTER—GAY MADE VICE PRESIDENT

F. W. Berk & Company, Inc., has announced to fertilizer manufacturers that effective June 1st, Millmaster Chemical Corp. as exclusive sales agents will take over the sale of Berk's Emjeo and other fertilizer materials heretofore furnished by them.

W. L. Gay, Vice President of F. W. Berk & Co., Inc. and Manager of their Fertilizer Department for the past nine years, has been elected Vice President of Millmaster Chemical Corp. and will be in charge of the Agricultural Chemicals Division. The company will also supply insecticides and fungicides.

Boom Times Defined

Boom times has been defined as a period when we all get rich by charging one another too much.

WASHINGTON IN FARMATION

(Exclusive From our Washington Correspondent)

THE FERTILIZER INDUSTRY is having difficulties in changing over from wartime to peacetime operations.

During World War II farmers were urged to produce all they could. To do that farmers used all the fertilizer they could get. They put in their orders early and accepted it when it was ready for delivery even thought it might be months before it was put on the land. All of this helped the fertilizer manufacturers, mixers and dealers, for most of the fertilizers were taken off their hands as fast as they were available and demand was increasing.

But peacetime has brought many uncertainties for farmers. Farmers know that they will have to make production adjustments, but they don't know just what, and they don't know what changes in fertilizer needs these adjustments will bring about. Therefore, they often delay buying fertilizer.

☆ ☆ ☆ ☆

LAST YEAR ORDERS for more than 70 per cent of the fertilizers were placed with the manufacturers and mixers in a period of two to three months. As a result, fertilizer manufacturers and mixers have met the demands of farmers only with great difficulty and at added expense to themselves and farmers. Farmers are being advised that if they will place their orders early for fertilizers, they know they are going to use, regardless of the changes or crops, they will help themselves and the whole fertilizer manufacturing and handling industry. The fertilizer industry also is being urged to cooperate by passing on to farmers cost-savings resulting from more economical year-round operation.

☆ ☆ ☆ ☆

EXPORT CONTROLS ON MOST nitrogen fertilizers went into "moth balls" on May 18 when OIT announced deletion from the positive list of nitrogenous fertilizer materials (excepting those containing ammonium nitrate) and prepared fertilizer mixtures. This means, with the exception noted, nitrogenous fertilizer materials and mixed fertilizers may now be exported in any quantity to any destination without obtaining validated export licenses. Some folks have contended that with export restrictions removed, producers of nitrogen fertilizers will not be faced with the necessity of curtailing plant operations because of lack of freedom to obtain orders from other-than-domestic customers. Let us hope this is now true.

If any items mentioned in this column are of special interest to our readers, please write and ask for more news. Address your letters to Washington InFARMation.

CHINA AMMONIUM CONTRACTS AWARDED

Contracts were awarded recently by the Federal Supply Service to five firms to furnish 25,000 metric tons of ammonium sulphate and 10,000 metric tons of ammonium phosphate for shipment to China under the ECA program.

The agency is holding award of contracts for 12,000 tons of nitrogenous fertilizers on which bids were opened May 17, while prices offered by foreign suppliers are checked. A bid of $148.81 of German origin was so low in comparison with domestic prices (from $165 to $175 per metric ton) that confirmation is being sought before contracts are made.

Successful bidders for ammonium phosphate and ammonium sulphate were:

Ammonium phosphate—Mathieson Chemical Corporation, 10,000 metric tons, at $78.85 per metric tons, f.a.s. vessel Houston.

Ammonium sulphate—Nitrogen Products, Inc., 13,000 tons at $41.98 f.a.s. vessels, Mobile; Baltimore, and New Orleans; Ford Motor Company, 1,000 tons at $42.55, f.a.s. vessel at Baltimore; Barrett Division of Allied Chemical Dye Corporation, 10,000 tons at $42.97, f.a.s. vessel at Baltimore; H. J. Baker & Bros., 1,000 tons at $43.25 f.a.s. vessel at New Orleans. Delivery to be made in June.

Two sour-puss farmers were grumbling:

"Never did see hay grow so short as mine this summer," sighed one.

"Think yours is short," answered the other. "I had to lather mine to mow it."

BONE MEAL TANKAGE BLOOD

SHEEP—COW—POULTRY MANURE

CASTOR POMACE NITROGENOUS

GROUND TOBACCO STEMS HOOF MEAL

ALL FERTILIZER MATERIALS

FRANK R. JACKLE

405 Lexington Avenue New York 17, N. Y.

FERTILIZER MATERIALS MARKET

NEW YORK

Buyers Awaiting New Prices on Nitrogen Solutions Before Contracting for Nitrogen Materials. Organics Prices Lower. Potash Buying Active with Some Competition from Europe

NEW YORK, June 7, 1950

Sulphate of Ammonia

With prices fixed by practically all producers for the new year at levels ranging from $32.00 to $37.00 per ton according to production point, some contracts were placed, but some buyers preferred to await the announcement of prices for nitrogen solutions, which are expected at any time. It was expected there would be a better movement of this material at the reduced price scale.

Nitrate of Soda

According to leading sources, no immediate price change was looked for in this material. Stocks at ports were sufficient to take care of buyers needs.

Ammonium Nitrate

No price changes were noted for this material and demand for quick shipment continued fairly good.

Nitrogenous Tankage

Some producers were sold ahead for several months at prices of around $4.00 per unit of ammonia ($4.86 per unit N), f.o.b. shipping points.

Castor Pomace

While some additional sales were made on the basis of $30.50 per ton, f.o.b. production points, buyers were not aggressive and material was available for shipment over the next few months. Some foreign material was also offered at competing prices.

Organics

Fertilizer organics displayed an easier tone with the end of the fertilizer shipping season at hand. Blood sold at $6.50 per unit of ammonia ($7.90 per unit N) and tankage at $7.25 ($8.82 per unit N), but most of the material was being shipped to the feed trade. Soybean meal was very firm, due to the strength of soy beans but little buying was noted. Soybean meal for quick shipment was held at $72.00 per ton in bulk, f.o.b. Decatur, Ill. Cottonseed meal was quiet and firm with little demand from the fertilizer trade. Linseed meal sold at $66.50 per ton in bulk, f.o.b. Eastern shipping points.

Fish Meal

This material was definitely weak in price because of the approach of the heavy menhaden fishing season, larger imports from abroad and the reluctance of the buyers to purchase except for their immediate needs. Fish scrap on a "when and if made basis" sold at $122.00 per ton for summer shipment while spot material sold at $125.00. Imported material was offered at $130.00 per ton, f.o.b. ports, with little buying.

Bone Meal

This material was slightly lower in price with the end of fertilizer season. Demand for feeding bone meal was poor.

Hoof Meal

This material recently declined and was offered at $6.25 per unit of ammonia ($7.59 per unit N) f.o.b. Chicago for prompt shipment.

Superphosphate

While the production of this material has been heavy and shipments recently have been good with the approach of the end of the fertilizer season, the demand will fall off. Costs have recently been increased and it is rather doubtful if any lower prices will be seen.

Potash

Leading domestic producers were busy writing contracts for the new year and most buyers were buying the quantity they expected to use. However, some French potash was being offered at competing prices and it was thought other European potash might be offered. The situation was rather mixed.

PHILADELPHIA

Market Quiet and Prices Lower on Organics. Greater Interest Shown in Sulphate of Ammonia. French Potash Offered

PHILADELPHIA, June 7, 1950

The raw materials market is quiet with very little inquiry and the price position rather weak. Organics are lower and castor pomace is now in easier supply. Sulphate of ammonia at the recently reduced price is moving rather freely, and in order to qualify for the discount numerous potash contracts are being made calling for equal monthly deliveries over the coming season.

Sulphate of Ammonia—Movement of coke-oven grade is increasing at the new low price, and it is expected that more of this material will now be used for top dressing. Production of converter's grade is said to be of record proportions.

Nitrate of Soda—No unusual developments are noted. Shipments against contracts continue at fair volume, but additional sales are limited. Stocks continue ample.

Blood, Tankage, Bone—The market for these organics continues quiet with prices lower against very limited demand. Blood is quoted around $6.00 per unit of ammonia ($7.29 per unit N), and tankage

$6.75 to $7.25 ($8.20 to $8.82 per unit N). Bone is in very slow demand and quoted $56.00 to $62.00 per ton, depending on grade and seller. Hoof meal is nominal at $6.50 per unit of ammonia ($7.90 per unit N), and practically no demand whatever.

Castor Pomace—This is in better supply and is quoted at $30.50 per ton at the works.

Fish Scrap—Fishing has started but market is very quiet with quotations at $130.00 to $140.00 per ton for 60 per cent menhaden material.

Phosphate Rock—No unusual activity is evident and stocks are quite sufficient to meet the demand. Movement is on a nominal seasonal basis and principally against contracts.

Superphosphate—Shipments are confined principally to contracts and movement is of seasonal dimensions. Prospects for the future are good. The tight position of triple superphosphate has eased off only a little.

Potash—Production is reported at full capacity and numerous contracts for the new season's requirements are being made for delivery in equal monthly quantities, to get the discount. Offerings of French muriate and sulphate are being made for delivery June 1950 to March 1951.

CHARLESTON

Adequate Supplies of Chemical Materials Expected for Next Season. Fertilizer Organics Still in Good Demand

CHARLESTON, June 5, 1950

Fertilizer manufacturers are primarily interested in completing various details of the season just ending and are negotiating for supplies for the new season. At this time prospects indicate that supplies for the three prime ingredients—nitrogen, superphosphate and potash—will be adequate for the coming season.

Organics—Interest in organics is primarily for use during the new season. Demand for fall and spring organics is good and two domestic nitrogenous producers continue withdrawn from the market, having sold their expected production for the time being. It is reported that producers of Chicago sludge, Nitroganic, have announced prices of $2.50 per unit of ammonia ($3.04 per unit N) in bulk and 40 cents per unit of A.P.A. for summer shipment. For fall and spring shipment, the ammonia is 25 cents per unit higher. Domestic nitrogenous is nominally $3.75 to $4.10 per unit of ammonia ($4.56 to $4.98 per unit N) in bulk f.o.b. production points. Last sales of imported nitrogenous were made at around $4.75 per unit of ammonia ($5.77 per unit N), in bags c.i.f. Atlantic ports. Offerings of imported are light.

Castor Pomace—Last sales were made at $30.50 per ton in bags, f.o.b. Northeastern production points for shipments through August. No offerings are in the market for later shipment. Movement is primarily against current contracts.

Dried Ground Blood—Chicago market is relatively unchanged at $6.25 per unit of ammonia ($7.59 per unit N) and the New York market continues at $6.75 to $7.00 ($8.20 to $8.51 per unit N), with demand quiet.

Potash—Contracts for substantial quantities for the new season have been written. Production continues at a high rate and shipments regular. It is reported French muriate 58/60 per cent K_2O, in bulk, has been offered at 59.3 cents per unit, c.i.f. North Atlantic ports and about 1 cent less at South Atlantic ports for June through April shipment from abroad. French sulphate of potash is at $44.92 in bulk, c.i.f. Northern, and about $1.00 per ton less, c.i.f. Southern ports for the same shipment.

Ground Cotton Bur Ash—Price for this material is 65 cents per unit of K_2O in bulk, f.o.b. Texas production point, for ground material testing 30/40 per cent K_2O.

Phosphate Rock—Movement continues seasonal with prices firm.

Superphosphate—As the season is practically over throughout the country, manufacturers generally are in easy supply position. Demand, however, continues for triple superphosphate, which is still in relatively short supply.

Sulphate of Ammonia—Contracts are being made for coke-oven material at the reduced prices previously indicated. Some synthetic sulphate of ammonia producers have found that they cannot compete in certain areas with coke-oven production on the present cost of production of synthetic material.

Ammonium Nitrate — Demand continues steady, absorbing available supply. Prices remain firm.

Nitrate of Soda—Supply situation is comfortable and no unusual activity is noted in the market.

CHICAGO

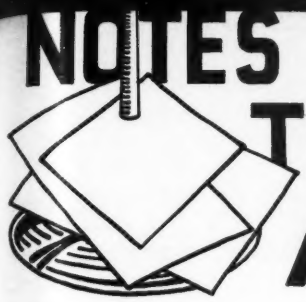
Demand for Organics Slackens with Prices Shaded on Some Purchases

CHICAGO, June 5, 1950

The midwestern market on animal proteins remains practically unchanged as far as values are concerned. However, actual trading has been quite narrow and present indications are that current production is not being entirely absorbed. As a result, the prices appear to be a little easier and what little buying interest prevails is generally limited to prices ranging from $5.00 to $10.00 per ton below lists.

Asking prices on ground and sacked meat scraps, 50 per cent protein, range from $110.00 to $115.00 per ton f.o.b. shipping points. Digester tankage is held at $105.00 to $110.00 per ton. Dry rendered tankage is generally held at $1.90 per unit of protein but sales are reported at $1.75 to $1.80. High testing wet rendered tankage is quoted $8.00 to $8.25 per unit of ammonia ($9.72 to $10.02 per unit N) with low test product held at $9.00 to $9.25 ($10.94 to $11.24 per unit N). Dried blood is nominally quoted at $6.25 per unit of ammonia ($7.59 per unit N). Steamed bone meal, 65 per cent B.P.L., is steady at $70.00 to $75.00 per ton and raw bone meal at $60.00 to $65.00.

NOTES FROM THE FIELD



INDIANA . . .

Farmers should be very grateful for the service rendered by research agronomists, because they are "on their toes" and ready to solve current problems. A good example of this "on the spot" service is the work recently done by Pat Johnson, in charge of experimental fields in southern Illinois, and Howard Lathrope, wheat specialist in southern Indiana. This is the problem which they have tackled.

Prolonged rains last fall made it necessary to plant much of the wheat in the "pocket" wheat area late in October or early November, with the result that much of the wheat just barely came through the ground before freezing weather. On top of this handicap, the winter was open with many alternate freezing and thawing periods which heaved the small wheat plants out of the ground. With these two strikes against the wheat, many acres will produce a very light crop and many acres may be a complete failure.

Johnson and Lathrope have taken advantage of these extremely adverse conditions to see what may be done to improve the wheat crop and in many cases to save the crop. They have gone right out to farmers' fields where the problem exists and made spring top-dressing of 40 pounds of nitrogen (N) plus various combinations of phosphorus and potash. Observations and yields from these tests will furnish valuable information, so that agronomists will know what to recommend to farmers when such conditions are repeated.

OHIO . . .

Ladino clover is helping to solve the pasture problem on many Ohio farms, and since it is a legume with excellent nitrogen-fixing power, it is contributing much to soil fertility, says L. E. Thatcher, agronomist at the Ohio Agricultural Experiment Station.

The practice of adding a little Ladino to the regular meadow mixture is increasing rapidly, continues Thatcher. Since Ladino is a perennial and also produces much seed that falls to the ground, it will last for years if fertilized and managed properly.

The formation of a statewide organization of fertilizer salesmen in California is making rapid progress.

THE NORTHEAST . . .

Pasture soils of the Northeast are quite generally in need of lime and fertilizer, according to pasture specialists of the Regional Pasture Laboratory, State College, Pennsylvania. They point out that surface applications of lime and phosphate move into the soil very slowly, thus with little loss from leaching, Enough phosphate to last two or three years can readily be made in one initial application. Although phosphate is more generally deficient than potash, the use of potash is important on soils where the supply is low.

Legumes are particularly sensitive to a deficiency of potash. However, with heavy potash fertilization, both grasses and legumes may use more than required for maximum production. It is believed, therefore, that potash where required should be applied more frequently than phosphorus.

FOREIGN NOTES

INDIA . . .

A D.D.T. factory and a technical institute will shortly be started in Mysore. D.D.T. has already been put to good use by the state in its drive for self-sufficiency in food. One district has been completely cleared of mosquitos with the help of D.D.T. enabling the state to bring under the plough 4,500 acres of land. Similar steps will be taken in three more districts.

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"Manufacturers of Paper and Paper Bags"

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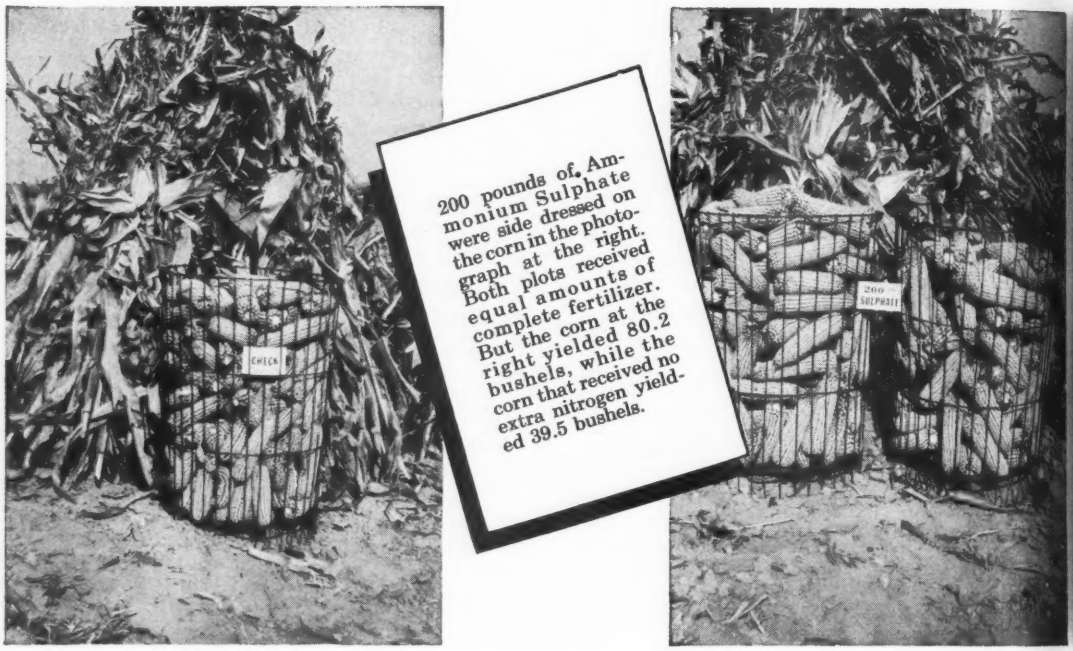
Side dressing ti

Cash in on the big demand fo


200 pounds of Ammonium Sulphate were side dressed on the corn in the photograph at the right. Both plots received equal amounts of complete fertilizer. But the corn at the right yielded 80.2 bushels, while the corn that received no extra nitrogen yielded 39.5 bushels.

Take advantage of this big promotion program

We'll furnish you all the promotional material you need to build your sales of bagged U·S·S Ammonium Sulphate.

(1) A four-page brochure to tell your dealers about the sales advantages of this material—your imprint on the cover.

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(3) Other literature giving details of experimental work with Ammonium Sulphate as a nitrogen material.

All this material is FREE to help you build sales of U·S·S Ammonium Sulphate. For literature samples, just mail the handy coupon to your nearest sales office.

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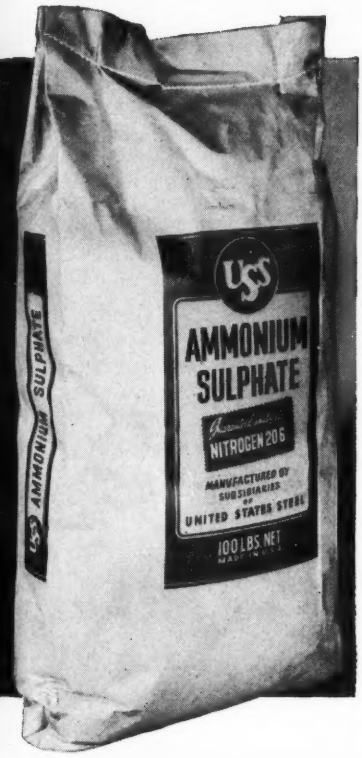

Every year, more farmers are discovering that an extra application of nitrogen material during the growing season can make the difference between a good crop and a bumper crop. An acre of corn, for example, uses about 3.5 pounds of nitrogen during the first 30 days of growth . . . but at the peak of the growing season it demands approx...ately 4 pounds of nitrogen every 24 hours.

U·S·S Ammonium Sulphate, used as a side dressing, provides needed nitrogen in readily-available form. You'll find big demand for it, and it makes a valuable addition to your line of complete fertilizers.

U·S·S Ammonium Sulphate is available in 100-pound bags that carry the familiar U·S·S Label. It doesn't set in storage . . . doesn't get wet when exposed to air.

Get your share of this summer's side dressing business by including bagged U·S·S Ammonium Sulphate in your line. And use U·S·S Ammonium Sulphate in bulk to provide the nitrogen content of your complete fertilizers.

Coal Chemical Sales Division
Ammonium Sulphate Department
(Your nearest sales office)

Please send me samples of promotional material on U·S·S Ammonium Sulphate and blanks for ordering literature.

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AMMONIUM SULPHATE

UNITED STATES STEEL

GOLDEN ANNIVERSARY . . . Just

fifty years ago Bemis, Tenn., was founded by Judson Bemis

BEMIS, TENESSEE celebrated the community's Golden Anniversary on May 20th. It was just fifty years ago last month that Judson Moss Bemis, founder of what is now known as Bemis Bro. Bag Co., and a pioneer in the bag manufacturing industry, decided to build a cotton mill in this Tennessee community to supply bag materials for his company's other plants over the country.

The 50th anniversary celebration was dedicated to the people of Bemis here and throughout the company's organization in tribute to their loyal and faithful service down through the years. Exhibits from different plants were displayed all during the celebration. These showed products manufactured by the company elsewhere and also payed tribute to the cities in which the plants are located.

A cat contest was held to pick the cat which looked most like the sedate puss peering from the bag in the company's famous trademark. Half a case of red salmon and a bit of catnip went to the winner. (EDITOR'S NOTE: The April 29 issue of AMERICAN FERTILIZER carried a feature on *The Bemis Cat.*)

Open house plant tours were held the day of the celebration with visitors watching the progress of a bale of cotton from the time it is broken out of the bale until the cloth rolls onto the bolt ready for shipment to other plants. More than 200 employees of the mill escorted those making the tour carefully explaining the manufacturing processes.

Feature of the day's celebration was a speech by Governor Gordon Browning of Tennessee which was broadcast over a wide network of radio stations. F. G. Bemis, president of the parent company and Fred J. Young, manager of Bemis Cotton Mill and of this town, and himself a fifty year man with the firm, also appeared on the program.

Finals of a national dressmaking contest were held as a high spot of the celebration. Mrs. W. W. Dillard of Memphis, Tennessee, wife of an employee of the Bemis bag factory there, won a $100 Savings Bond with a strapless sun dress made of Bemilin —a Bemis made cotton print— which she modeled in the fashion revue.

Finale of the day's events was a real southern barbecue served in the open to employees of Bemis Cotton Mill and their familes and other residents of the community. Some 4,000 people enjoyed this favorite delicacy with all the "trimmings." Into this giant feed went 4600 pounds of delicious southern style barbecue which had been in the pits 18 hours, 300 loaves of bread, 400 cases of soft drinks, 150 gallons of slaw, and 150 gallons of beans cooked with barbecue.

USDA SOIL SURVEY CHIE TO EUROPE

Dr. Charles E. Kellogg, chief the Division of Soil Survey, Bur of Plant Industry, Soils, and Ag cultural Engineering will leave abou June 24 on a trip that will take hi to seven countries for consultation on soils research.

One of these is Holland, where D Kellogg will head the United State delegation to the Fourth Inter national Congress of Soil Science meeting in Amsterdam in July. H is vice-president of the Congress.

Other countries on Dr. Kellogg itinerary are Iceland, Ireland, an Portugal where he will be the gue of the ministries of agriculture, an England, Belgium, and France.

OBITUARY

FRANK M. JENIFER

Frank M. Jenifer, president the Pacific Coast Borax Compan died at his home in Los Agneles May 25. He was seventy-two yea old.

Mr. Jenifer was appointed sistant general manager of Pa Coast Borax in 1926 and beca president and general manag eleven years later. He was al vice-president and director of t United States Potash Compan Carlsbad, N. M.

R. W. DILATUSH

R. W. Dilatush, NFA memb and manufacturer of fertilizers a insectides at Dayton, New Jerse passed away April 27.

Woodward & Dickerson Inc.

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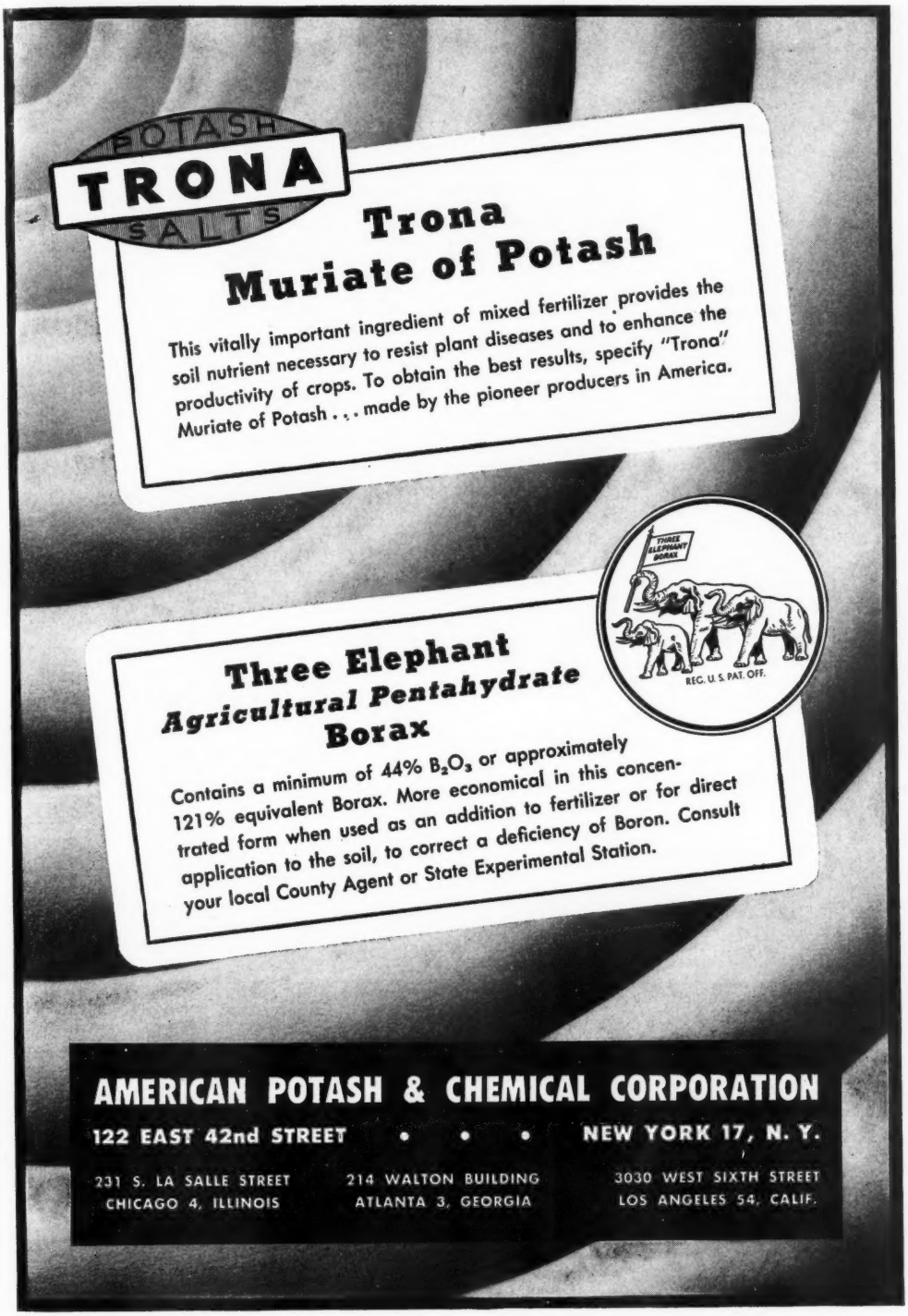
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Muriate of Potash
This vitally important ingredient of mixed fertilizer provides the soil nutrient necessary to resist plant diseases and to enhance the productivity of crops. To obtain the best results, specify "Trona" Muriate of Potash . . . made by the pioneer producers in America.
THREE ELEPHANT BORAX
REG. U. S. PAT. OFF.
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Agricultural Pentahydrate
Borax
Contains a minimum of 44% B_2O_3 or approximately 121% equivalent Borax. More economical in this concentrated form when used as an addition to fertilizer or for direct application to the soil, to correct a deficiency of Boron. Consult your local County Agent or State Experimental Station.
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LOS ANGELES 54, CALIF.

INSECTICIDES . . .

(*Continued from page 9*)

be danger from acute poisoning than from chronic poisoning.

There are a number of poisonous substances used as soil fumigants. These, as I understand it, are applied in such a way that there is no uptake by the edible portion of fruits or vegetable of the poisonous substances. If this is a fact, then there will be no public health problem to consumers of fruits and vegetables from their use. Such fumigants are:

Hydrocyanic acid gas; cyanogen chloride; carbon disulphide; carbon tetrachloride; ethylene di chloride; DD mixture (1, 2-dichloropropane and 1, 3-dichloropropylene); methyl bromide; ethylene dibromide; dichloroethyl ether; beta-methylallyl chloride; acrylonitrile; paradichlorobenzene; methylene chloride; chloro picrin, and naphthalene.

Then we have substances like tetraethyl and hexaethyl pyrophosphate which are quite poisonous under some conditions but which apparently decompose rapidly so that I understand it is unlikely that any of these materials themselves will remain on fruits or vegetables when these are ready for shipment. If these substances do decompose and if the products of decomposition are innocuous, there would appear to be no public health problem involved from any residues.

There are still other poisonous substances used for treating seed. If such treatment is properly applied I would think that there would be no up-take problem or public health problem from fruits and vegetables grown from such treated seeds.

Tetramethyl thiuram disulphide; mercurous chloride; corrosive sublimate; 2,3, dichloro-1,4-naphthoquinone; chloranil; ethyl mercuric phosphate; phenylmercuric salts; yellow oxide of mercury, and zinc mercury chromate complex.

Lastly, because of lack of information, it is not possible for me to classify at this time any of the chemicals listed here:—

Anabasine; azobenzene; p-butoxy-phenylpropane; di-(p-chlorophenyl) methyl carbinol; p-chlorophenyl p-chlorobenzenesulphonate; aramite (alkyl aryl sulphite); hydroxymethyl flavan; DFDT (fluorine analog of DDT); phenoxathiin; scorodite; tetra-isopropyl pyrophosphate; 2,3 dichloro, 1,4, naphthoquinone; copper 8 quinolinolate; lauryl isoquinolinium bromide; lauryl pyridinum bromide; lauryl quinolinium bromide; magnesium 8 quinolinolate; 8 quinolinol benzoate; zinc mercaptobenzothiazole; zinc nitrodithioacetate; zinc 8 quinolinolate; xanthone; calcium ethylene bis dithiocarbamate; manganese dimethyl dithiocarbamate; zinc N-ethyl (betacyanoethyl) dithicarbamate; zinc dimethyl dithiocarbamate cyclohexamine complex; 4 chlorophenoxy acetic acid; naphthalene acetamide; 2, 4, 5 trichloro phenoxyacetic acid; chloranil; Cl mercaptobenzothiazole; copper naphthenate; copper nitroacetate; copper nitro dithioacetate; diphenyl guanadine phthalate; 8 hydroxy quinolinoline sulphate; thiuram disulphides; nickel carbamate; zinc dimethyl dithiocarbamate; zinc ethylene bis dithiocarbamate; disodium ethylene bis dithiocarbamate; ferric dimethyl dithiocarbamate; disodium salt of 3, 6 endoxo hexahydro phthalic acid (endothal), and 2′, 2″ dihydroxy 5′, 5″ dichloro diphenyl methane.

(EDITOR'S NOTE: *More news of the residue hearings will be carried in future issues.*)

USI Offers Pesticide Data

U. S. Industrial Chemicals, Inc., New York, has announced a new, eight-page brochure entitled "Controlling Insects on the Dairy Farm." The booklet describes the various applications of the "Pyrenone" insecticides in protecting dairy cattle against flies, mosquitoes, lice and other insects.

MONSANTO'S NEW BOOKLET

Equipment and procedures for handling 75 per cent phosphoric acid in tank car quantities are described in a pamphlet available from Monsanto Chemical Company.

In addition to specifications for tanks, pumps and pipes, the illustrated pamphlet includes step-by-step explanations of several methods of unloading phosphoric acid cars, from spotting to preparing car for return.

PACIFIC COAST BORAX MOVING

Pacific Coast Borax Company division of Borax Consolidated, Ltd., is moving eastern headquarters from 51 Madison Avenue to 100 Park Avenue, New York on July 1. Telephone number will be unchanged.

FAILURE . . .

(*Continued from page*

cocktails before dinner relax you, try six or eight.

14. Be so impatient for advancement that you fail to learn what your present job has to teach.

15. Get into office politics, preferably with both feet; if there aren't any, start some.

16. Be sparing of praise for a job well done. Why let people think you're soft-hearted and can be won over by intelligent work?

17. Be sure to stick your nose into the gripe-and-grouse sessions of your subordinates.

18. Let prejudices for and against people and methods sway your decisions; not reason. Cut them down to your size.

19. Line up a couple of outside positions to jump to in case you tire of your present post.

20. Never bother to find out specifications for your job, nor measure your performance.

21. Similarly, keep subordinates in the dark on what's expected.

22. Develop techniques for looking overworked. Will give the impression you can't keep your head above water in your present position, so why trust you with more duties.

23. Be arrogant, haughty in your manner.

24. If good executive habits are too ingrained to abandon easily, overwork: never relax. Gets you stale on the job, slows you down.

25. Milk your position for social prestige.

There is too much emphasis on the alleged need for more purchasing power. What the country needs is stable purchasing power. Increased wages, higher pensions, more unemployment insurance, all are of no avail if the purchasing power of money falls faster.

—Bernard M. Baruch

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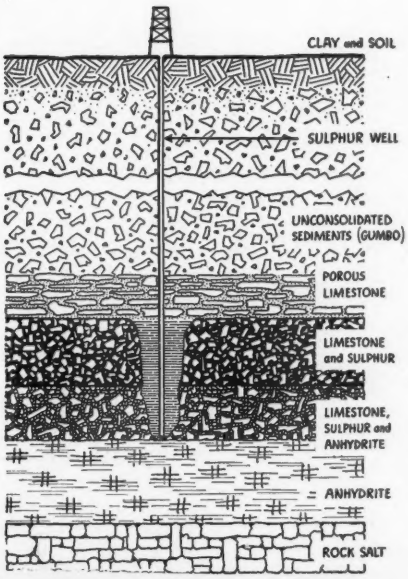

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New Studies of Humus Breakdown Made by USDA

Humus is most valuable to growing crops when it is breaking down—that is, when it is most active—say three research scientists of the U.S. Department of Agriculture — Dr. Franklin E. Allison, Louis A. Pinck, and Mildred Sherman—who have been carrying on studies at the Plant Industry Station, Beltsville, Md., on the maintenance of soil organic matter.

One phase of the problem is how nitrogen, an important factor in the decay of crop residues such as straw and cornstalks and green manure in the soil, can best be used to produce the most humus. In the past many have claimed the nitrogen should be added when woody crop residues are turned into the soil, regardless of when the crop is planted—the object being to avoid excessive loss of carbon and as a result, having less humus.

But the studies by Allison, Pinck and Sherman show that although adding nitrogen speeds up humus formation, adding it at the time the straw or stalks or green manure are turned under results in no more humus than if it is added months later, when the crop is planted. Moreover, they consider it is usually better to add it to the crop rather than to the crop residue. Not only is there less chance of loss by leaching of the nitrogen just added, but the crop residue—straw, for example—may act as a holder of nitrogen formed as a result of normal biological activities in the soil. As a result of such conservation, it may not be necessary for the farmer to use as much commercial nitrogen.

How much nitrogen is needed to satisfy the appetites of these organisms? The experimenters say there is a need for 6 to 12 pounds of nitrogen (36 to 72 pounds of sodium nitrate) for each ton of the dry material estimated to have been turned under. The aim is, they say, "to raise the nitrogen percentage of the material to about 1.5 per cent based on dry weight." They do not consider this a wasteful use of nitrate as it becomes part of the mellowing soil and is slowly released to the growing crop as decomposition proceeds, some of the effect being delayed two or three years. Somewhat larger quantities will do no harm but will be used by the crop that follows just as though no residues had been turned under.

Young and succulent green crops are known to be quick rotting and good for crops, largely because they release much nitrogen in the root zone. But how does humus from this source last? Pretty, well these experiments showed, 30 to 40 per cent of the green manure carbon being still in the soil after a year, nearly as much as when straw or cornstalks were used. Many have thought green manure carbon disappears within three to six weeks.

Another result of the researches is a better understanding of why it is easier to maintain humus in clay than in sandy soils. It is because of the presence in clay soil of colloids, the finely divided part (what might be called "jellylike") whereas sandy soils have practically none. The three researchers found that this colloid part combines with the nitrogenous material of decomposing plants, holding it in the soil in relatively stable form. That, they say, is the big reason for more humus i clay—it has really become a part of the soil. Sandy soils are better aerated, but that is considered a minor factor in keeping humus.

(*Continued on page 24*)

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Finally, the facts emphasize to the farmer that it pays to keep a fresh supply of humus coming along, partly because it holds nitrogen and other plant food and moisture and partly because it makes the soil easier to handle, and furthermore, Dr. Allison says, "a high level of humus means larger crops, and larger crops mean more residues, and more residues result in more humus. It is a merry-go-round we must not let break down."

PLANT FOOD TESTS CONDUCTED IN SOUTH

Down in Watkinsville, Ga., where the Hog Mountain road folks look with pride on their branch of the Georgia Experiment Station the nitrogen research fellows have come up with some interesting results.

They report that by using a soil-saving rotation, your plant foods actually go farther.

At the Watkinsville Conservation Experiment Station, nitrogen was applied to cotton growing in several different rotations. When put on cotton growing on land that had been in cotton for six years straight they harvested 21 pounds of seed cotton for every pound of nitrogen applied.

Where the cotton was growing in an oats-kobe lespedeza-corn rotation, it was a different story. Here they picked one-fourth more seed cotton—27.2 pounds for every pound of nitrogen.

The plots were located on gently sloping Class II land, and had been given the same fertilizers for the last six years. The rotation was responsible.

In another experiment, cotton on moderately rolling Class III land made best use of the nitrogen when grown in an oats-kobe lespedeza rotation. Yields per pound of nitrogen applied were one-third more than when the nitrogen was applied to continuous cotton.

The four-year rotation which worked best on the Class II land didn't do so well here. The topsoil was already short on organic matter, and two row crops in succession increased soil and water losses.

In both cases, nitrogen applied in fertilizer did its best job when used in rotations where legumes and crop residues were turned under. Besides saving soil and water, these residues help maintain organic matter; give soils more texture, make them easier to work.

YOU HAVE TO "SHOW 'EM" IN ARKANSAS, TOO!

K. S. McNabb's neighbors in Greenwood, Arkansas, are no longer scoffing at his heavy fertilization of a two-acre winter pasture for 15 calves.

Instead, they've been converting to the idea themselves. Besides carrying the calves almost continuously from November 1, the tiny plot has also provided 270 "grazing days" for adult cattle.

According to South Sebastian County Agent Herbert B. Russell, Mr. McNabb seeded the plot with 10 bushels of Traveler oats and 50 pounds of hairy vetch. Each of the two acres received 500 pounds of 5-10-5 fertilizer, 400 of phosphate, and a top-dressing of 300 pounds of ammonium nitrate.

Counting fertilizer and seed, the cash investment amounted to about $58. But Mr. McNabb figures his total return was worth at least $150.

His oats grew so fast that the 15 calves couldn't keep them down. That's why he turned in the adult cattle.

No "Proof" Yet On Radio-Active Claims

There is still no basis for the fly-by-night claims of certain manufacturers who claim that radioactive materials produce more, according to recent tests in Mississippi.

Corn and cotton were neither aided nor hurt by radioactive materials used in tests carried out at the Mississippi Agricultural Experiment Station.

Experiments with the use of alpha ray emitting materials—uranium, radium, and a commercial product known as "alphatron"—were conducted there by U. S. Jones and C. Dale Hoover in 1948.

After the war, reports were heard about huge crop yields obtained on radioactive soil at Hiroshima and Nagasaki, where atom bombs were dropped in 1945. These rumors proved unfounded.

Althxugh some of the rumors persist in some quarters, there is now a greater awareness of the real contribution which atomic energy performs in agriculture by providing tracer materials to show how plants take elements from the soil and convert them into food.

First used in Germany in 1913, these radioactive isotopes are now much more cheaply produced, and are being used by various state experiment stations. Mississippi State College now has a program for the investigation of soils problems associated with the ammoniation of superphosphate, using radioactive phosphorus.

As for the 1948 experiments, the conclusion was that "fertilizing of corn and cotton with small amounts of the radioactive materials failed to show any beneficial or detrimental effect upon either crop growth or quality." Jones and Hoover described their work in Mississippi *Farm Research* of March 1949, as follows:

"Three radioactive materials were used in the field experiments. Alphatron was used at the rates of 5, 10, and 20 pounds per acre. This material is said to have an alpha ray disintegration rate of 8 million per pound per second, largely from actinium.

"The second material used was radium. It was applied as radium bromide and as used contained 30 micrograms of radium per pound. The third material used was uranium, which was applied as uranyl nitrate. The carrier of these materials was dolomite. The amounts of radium and uranium used in these experiments were calculated to give the same number of alpha disintegrations per unit of experimental area as is given in the 10-pound rate of alphatron. The alphatron was added to the soil at three different rates and each rate with ten replications in the various field tests to insure dependable results."

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Fewer Mixtures Better in Missouri

Led by the common sense advice of Dr. W. A. Albrecht, chairman of the Missouri Soils Department, and guided by soil testing in some 68 counties, Missouri farmers are finding that fewer fertilizer mixtures would do a better job in the state.

Tests have shown that fertilizer applications can build up the soil in its most deficient nutrient. This balances the other nutrients and gives efficient crop production. The purchase of fertilizers is an investment in plant nutrients, and they supplement the supplies already in the soil, says Dr. Albrecht. Soil tests and practices in central states show that the number of pounds of plant nutrients applied per acre is more important than the application of any specific formula.

In a move to save labor and transportation costs, manufacturers are making more concentrated fertilizers. For example, farmers now are using just half as much 4–24–12 per acre as it would take of 2–12–6 which is only half as concentrated. Here's where the speifice formula loses its significance. It is the amount of plant food that counts, and 200 pounds of 4–24–12 contains as much plant food as 400 pounds of 2–12–6. Fertilizer manufacturers have accepted suggestions of agronomists to make fertilizers more concentrated. This will, in turn, mean a saving to the farmer.

Soils specialists believe that fertilizers should differ from each other by no less than 4 units each of nitrogen, phosphorus, or potassium. A variation of one unit in the formula for a 400-pound application per acre gives differences in that nutrient of only 4 pounds per acre. This is too small to be significant. For this reason agronomists believe future formulas should be made up as units divisible by 4.

Dr. Albrecht recommends for the next year, consideration be given to the following fertilizer formulas: Three without nitrogen: 0–10–20; 0–20–20; 0–20–10. Two relatively high in potassium while low in nitrogen; 3–9–18; 3–12–12. And four containing nitrogen in increasing amounts: 4–12–8, 5–10–10, 8–8–8, and 10–6–4.

The common 4–12–4, having a total percentage of only 20 might well be replaced by more concentrated fertilizers. With the increasing need for nitrogen, it is probable that the 8–8–8 formula will be replaced not far in the future by a 10–10–10; the 5–10–10 by a 6–12–12; the 3–12–6 by a 4–16–8; and the 3–18–9 by a 4–24–12—all to bring up the concentration in other nutrient elements as well.

Tests show farmers are fertilizing the soil more than the crop when the fertilizers react with the soil before they do with the plant. And test-guided use of fertilizer is making that practice more efficient by applying the nutrients needed by the particular soil as provision for any crop.

Minnesota Soil Testing (*Continued from page 5*)

information is included with the samples, and that all the samples are in order.

Then, when the samples are tested, the recommendations are given on a sheet that gives the pounds of plant food needed for the crop to be grown, the fertilizer ratio that will furnish the plant food in the right balance, and all the grades under that ratio that are sold in the state. For each grade is given the number of pounds that should go on the soil and how it should be applied—broadcast or in the row. The farmer can take the sheet to his fertilizer dealer and buy the grade that the dealer has in stock.

Burson reports that many of the dealers like the plan so well that they are paying all the shipping charges on the soil samples. Others are paying the full cost of testing. Most dealers are urging their customers to have their soils tested and are working with them to get the samples taken, the information blanks filled out and the samples mailed to the laboratory.

Since the University laboratory started full operation in August, 1949, more than 8,500 samples have been tested. When the lab was first projected, the capacity was set at 40,000 samples a year.

Two copies of the recommendations are prepared by the University laboratory. The farmer gets one and the other is sent to the county agent who keeps it on file for permenent reference. During the winter, county meetings are scheduled for the farmers who have tested their soil and the dealers and others who are serving as soil sample depots. Some rather perplexing situations are straightened out. There was the farmer who had put superphosphate on his alfalfa that summer. Late in the fall he had sampled the field again. The test showed need for as much more phosphate as he had applied. When Burson pulled together the facts, he found that the ground was frozen when the samples were taken. The farmer had kicked away the frozen crust. All the applied phosphate was in that crust and did not show in the test.

Burson is urging farmers to send in samples only from those fields where fertilizer is to be used the following year. He points out that two crops between the time of test and the time fertilizer is used can make a big difference in the fertilizer requirements. All the recommendations from the University laboratory stress the advantage of putting the bulk of the fertilizer on the sod crops in the rotation. As Burson puts it, "We advise fertilizing the rotation. Really fertilizing the sod crops boosts the forage yields, adds to the mineral fertility of the soil, and gives the farmer a chance to build up the organic matter supply in his soil for higher yields of corn and small grains."

The Minnesota soil testing program not only gives the farmers a better idea of their fertilizer needs, but it gives the soils men a better idea of the fertility status and problems of the soils in the state. With continued cropping the soils of Minnesota are showing the effect of management systems, comments Burson. They are finding variation in the mineral fertility of some of the common soils that they never knew existed before.

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CLEMSON FERTILIZER MEETING JULY 12-13

A fertilizer conference will be held at Clemson Agricultural College, Clemson, July 12 and 13 and all fertilizer manufacturers, dealers and salesmen operating in South Carolina are invited to attend. B. D. Cloaninger, Head of the Department of Fertilizer Inspection and Analysis who called the meeting, announces that the program theme will be "Pastures for South Carolina."

FRIENDS OF THE LAND MEET AGAIN

The Ninth Annual Institute on Conservation, Nutrition and Health, sponsored by Friends of the Land, will be held at the Stevens Hotel, Chicago, July 6:7. Participants include: Guy D. Smith, USDA; Helmut Kohnke, Prudue University; John Timmons, Iowa State College; K. Starr Chester, Battelle Memorial Institute; Oscar Nelson Allen, University of Wisconsin.

Speakers the second day include Roger Bray, University of Illinois; George D. Scarseth, American Farm Research Association; Grant H. Laing, Northwestern University; R. V. Allison, University of Florida; George K. Davis, University of Florida; Henry Trautman, Madison, Wisconsin.

At the dinner on July 6, Earl P. Hanson, University of Delaware, and Louis Bromfield, famous author-farmer, will speak.

DOW OPENS TEXAS AMMONIA PLANT SEPT. 15

Texas division of Dow Chemical Company reported recently that the new ammonia plant starts production September 15. Sub-structure construction was started late in 1949 and, in January, contractors started mechanical construction.

Five spheroid tanks, the first to be used by the Texas division, are being erected in the new plant. The spheroid, a great silver globe on the Lone Star range, is advantageous in the hurricane area.

Hydrogen from Texas division plants "A" and "B" chlorine cells will be proportionally combined with the nitrogen element of the atmosphere, compressed and reacted to form anhydrous ammonia, extensively used both as a direct fertilizer and as an ingredient in mixed fertilizers.

High Analysis Filler . . .

An harassed goose doesn't lay golden eggs.

Then there's the one about the Scotchman who was nearly arrested because he thought the sign on the door said: Laddies.

He who will economize, will never have to agonize.

—Confucius

"A politician is one who stands for what he thinks the votes will fall for."

—Selected

Oblivion is always next door to mediocrity.

—Amos Parrish

For safe driving, see that all nuts are tight, except the one at the wheel.

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AMMONIA—Anhydrous and Liquor
Barrett Div., Allied Chemical & Dye Corp., New York City
Commercial Solvents Corp., New York City
Lion Oil Co. El Dorado, Ark.
Phillips Chemical Co., Bartlesville, Okla
Spencer Chemical Co., Kansas City, Mo.

AMMONIUM NITRATE
Lion Oil Co., El Dorado, Ark.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

BAG MANUFACTURERS—BURLAP
Bemis Bros. Bag Co., St. Louis, Mo.
Mente & Co. Inc., New Orleans, La.
Virginia-Carolina Chemical Corp., Richmond, Va.

BAG MANUFACTURERS—Cotton
Bemis Bro. Bag Co., St. Louis, Mo.
Mente & Co. Inc., New Orleans, La.
Virginia-Carolina Chemical Corp., Richmond, Va.

BAG MANUFACTURERS—Paper
Arkell & Smiths, Canajoharie, N. Y.
Bemis Bro. Bag Co., St. Louis, Mo.
International Paper Co., Bagpak Div., New York City
Jaite Company, The, Jaite, Ohio
Kraft Bag Corporation, New York City
Mente & Co. Inc., New Orleans, La.
Raymond Bag Co., Middletown, Ohio
St. Regis Paper Co., New York City
Virginia Carolina Chemical Corp., Richmond, Va.

BAGS—Dealers and Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.
McIver & Son, Alex. M., Charleston, S. C.

BAG CLOSING MACHINES
International Paper Co., Bagpak Div., New York City
St. Regis Paper Co., New York City

BAG PRINTING MACHINES
Schmutz Mfg. Co., Louisville, Ky.

BAGGING MACHINES—For Filling Sacks
Atlanta Utility Works, The, East Point, Ga.
St. Regis Paper Co., New York City
Sackett & Sons Co., The A. J., Baltimore, Md.
Sturtevant Mill Company, Boston, Mass.

BONE PRODUCTS—BONE BLACK
American Agricultural Chemical Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Davidson Commission Co., The, Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex M., Charleston, S. C.
Scar-Lipman & Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

BORAX AND BORIC ACID
American Potash and Chem. Corp., New York City

BROKERS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Davidson Commission Co., The, Chicago, Ill.
Jackle, Frank R., New York City
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

BUCKETS—For Hoists, Cranes, etc.
Hayward Company, The, New York City

BUCKETS—Elevator
Baughman Manufacturing Co., Jerseyville, Ill.
Link-Belt Company, Chicago, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.

CARS AND CARTS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.

CASTOR POMACE
McIver & Son, Alex. M., Charleston, S. C.

CHEMICALS
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Barrett Div., Allied Chemical & Dye Corp., New YorkCity
Commercial Solvents Corp., New York City
Davison Chemical Corporation, Baltimore, Md.
International Minerals & Chemical Corporation, Chicago, Ill.
Lion Oil Company, El Dorado, Ark.
Koppers Company Inc., Tar Products Div., Pittsburgh, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Phillips Chemical Co., Bartlesville, Okla.
Scar-Lipman & Co., New York City
Spencer Chemical Co., Kansas City, Mo.
United States Steel Corp., New York City
Virginia-Carolina Chemical Corp., Richmond, Va.
Woodward & Dickerson, Inc., Philadelphia, Pa.
Woodward Iron Company, Woodward, Ala.

CHEMISTS AND ASSAYERS
Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Wiley & Company, Baltimore, Md.

CONDITIONERS
Jackle, Frank R., New York City
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
National Lime & Stone Co., Findlay, Ohio
Quaker Oats Company, Chicago, Ill.

COTTONSEED PRODUCTS
Ashcraft-Wilkinson Co., Atlanta, Ga.
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Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

DRYERS
Sackett & Sons Co., The A. J., Baltimore, Md.

ENGINEERS—Chemical and Industrial
Chemical Construction Corp., New York City
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind
Sturtevant Mill Company, Boston, Mass.
Titlestad Corporation, Nicolay, New York City

FERTILIZER (Mixed) MANUFACTURERS
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Armour Fertilizer Works, Atlanta, Ga.
Davison Chemical Corporation, Baltimore, Md.
International Minerals & Chemical Corporation, Chicago
Southern States Phosphate & Fertilizer Co., Savannah, Ga
Virginia-Carolina Chemical Corp., Richmond, Va.

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Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., New York City
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Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Scar-Lipman & Co., New York City
Southern States Phosphate & Fertilizer Co., Savannah, Ga.
Woodward & Dickerson, Inc., Philadelphia, Pa.

INSECTICIDES
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LEAD BURNERS
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LIMESTONE
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Ashcraft-Wilkinson Co., Atlanta, Ga.
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National Lime & Stone Co., Findlay, Ohio

LOADERS—Car and Wagon
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Link-Belt Company, Chicago, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Acid Making and Handling
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Chemical Construction Corp., New York City
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Ammoniating
Sackett & Sons Co., The A. J., Baltimore, Md.
Sturtevant Mill Company, Boston, Mass.

MACHINERY—Grinding and Pulverizing
Atlanta Utility Works, The, East Point, Ga.
Bradley Pulverizer Co., Allentown, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.
Sturtevant Mill Company, Boston, Mass.

MACHINERY—Material Handling
Atlanta Utility Works, The, East Point, Ga.
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Hayward Company, The, New York City
Hough Co., The Frank G., Libertyville, Ill.
Link-Belt Company, Chicago, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.
Sturtevant Mill Company, Boston, Mass.

MACHINERY—Mixing, Screening and Bagging
Atlanta Utility Works, The, East Point, Ga.
Link-Belt Company, Chicago, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.
Sturtevant Mill Company, Boston, Mass.
Universal Vibrating Screen Co., Racine, Wis.

MACHINERY—Power Transmission
Link-Belt Company, Chicago, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Superphosphate Manufacturing
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.
Sturtevant Mill Company, Boston, Mass.

MANGANESE SULPHATE
McIver & Son, Alex. M., Charleston, S. C.

MINOR ELEMENTS
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Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.
Sturtevant Mill Company, Boston, Mass.

NITRATE OF SODA
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Barrett Div., Allied Chemical & Dye Corp., New York City
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., New York City

NITROGEN SOLUTIONS
Barrett Div., Allied Chemical & Dye Corp., New York City
Lion Oil Company, El Dorado, Ark.
Phillips Chemical Co,, Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

NITROGENOUS ORGANIC MATERIAL
American Agriculture Chemical Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Davidson Commission Co., The, Chicago, Ill.
International Minerals & Chemical Corporation, Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

NOZZLES—Spray
Monarch Mfg. Works, Philadelphia, Pa.

PHOSPHATE ROCK
American Agricultural Chemical Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Winkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Davison Chemical Corporation, Baltimore, Md.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Virginia-Carolina Chemical Corp., Richmond, Va.

PLANT CONSTRUCTION—Fertilizer and Acid
Atlanta Utility Works, The, East Point, Ga.
Chemical Construction Corp., New York City
Monsanto Chemical Co., St. Louis, Mo.
Sackett & Sons Co., The A. J., Baltimore, Md.
Southern Lead Burning Co., Atlanta, Ga.
Stedman Foundry and Mach. Works, Aurora, Ind.
Sturtevant Mill Company, Boston, Mass.
Titlestad Corporation, Nicolay, New York City

POTASH SALTS—Dealers and Brokers
American Agricultural Chemical Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
International Minerals & Chemical Corporation, Chicago, Ill
Jackle, Frank R., New York City
McIver & Son, Alex M., Charleston, S. C.
Scar-Lipman & Co., New York City

POTASH SALTS—Manufacturers
American Potash and Chemical Corp., New York City
Potash Co. of America, New York City
International Minerals & Chemical Corporation, Chicago, Ill.
United States Potash Co., New York City

PRINTING PRESSES—Bag
Schmutz Mfg. Co., Louisville, Ky.

REPAIR PARTS AND CASTINGS
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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Mach. Works, Aurora, Ind.

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Scar-Lipman & Co., New York City
United States Steel Corp., New York City
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Woodward Iron Company, Woodward, Ala.

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Southern States Phosphate Fertilizer Co., Savannah, Ga.
U.S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla
Virginia-Carolina Chemical Corp., Richmond, Va.

SUPERPHOSPHATE
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Virginia-Carolina Chemical Corp., Richmond, Va.

SUPERPHOSPHATE—Concentrated
Armour Fertilizer Works, Atlanta, Ga.
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U.S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Virginia-Carolina Chemical Corp., Richmond, Va.

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American Agricultural Chemical Co., New York City
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Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
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International Minerals & Chemical Corporation, Chicago, Ill.
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